Original Article

Fatigue in Breast Cancer Women and Examination of Sexual Satisfaction Levels of Partners

Yasemin Demir, MSc
Oncology Clinical Nurse, Izmir Bozyaka Training and Research Hospital Stem Cell Transplantation Clinic, Izmir, Turkey

Figen Albayrak Okcin
Assistant Professor, Internal Medicine Nursing, Ege University Faculty of Nursing, Bornova, Izmır, Turkey

Correspondence: Figen Albayrak Okcin, Assistant Professor, Internal Medicine Nursing, Ege University Faculty of Nursing, Bornova, Izmır, Turkey e-mail: figen.okcin@gmail.com figen.okcin@ege.edu.tr

Abstract

Background: Fatigue is a common symptom in women with breast cancer. Problems related to sexual life are common in women with breast cancer and affect their relationship with their partners negatively.
Patients and methods: This was a planned as a descriptive study. The data were collected only for women with breast cancer using Descriptive Data Collection Form (30 items), Golombock Rust Inventory of Sexual Satisfaction-GRISS (Female), and Piper Fatigue Scale (PFS). Women's partners were asked Descriptive Data Collection Form (16 items) and Golombock Rust Inventory of Sexual Satisfaction-GRISS (Male).Data were collected between November 2014 and July 2015.
Results: The average age of women with breast cancer receiving chemotherapy was 47.21±8.55 and the average age was 50.74±8.47. The relationship between frequency, communication, avoidance, and touch with lower dimensions of sexual satisfaction of women and their partners with breast cancer was found to be significant. All women with breast cancer felt themselves tired, and 74.2% of the patients stated that they experienced moderate fatigue. GRISS scale relation between total score and "behaviour, sensory and cognition" subscales and total PFS score were observed.
Conclusions: As a result, it has been found that women with breast cancer have decreased sexual satisfaction after diagnosis, which is related to fatigue It was found that there was a difference between women's sexual satisfaction and their partners ' sexual satisfaction.

Key Words*:* Breast cancer, fatigue, sexuality, sexual satisfaction

Introduction

Breast cancer is the most common cancer among women all over the world. Among all cancer-related mortality rates, breast cancer is seen in 15% of women (Bray et al, 2018). Diagnosis of cancer brings about changes in the individual's personal, family, social, professional and financial life and sexual relations with his wife (Mancha et al, 2019). Due to breast cancer treatment, women experience problems such as postoperative pain, lymphedema, fatigue, alopecia, nausea, vomiting, depression, fear, deterioration in body image perception, social isolation and fear of relapse (Mancha et al, 2019; Reis, 2003; Aygin & Yaman,2017). Sexual dysfunction is seen in 30-100% of women with cancer. The most common sexual problem in cancer patients is the decrease in sexual desire for

both sexes (Can, 2004). Dyspareunia in women, inability to achieve orgasm, decrease in sensation and changes in the sensitivity of the genital area may be seen due to pain (Bober &Varela, 2012; Akman & Aygin, 2015). Breast cancer can lead to psychological difficulties in the wives as well as their partners due to the stress and treatment outcomes (Tiryaki et al, 2010). The partners of these women may also find it difficult to maintain their sexuality to the desired quality. In some men, they are reluctant to have sex because of anxiety, depression and their reactions to the altered body image. In a study of survival concerns before the treatment, both the patient and her partner usually decreased sexual desire were observed. The same study included a lack of desire, pain and non-attractive sexual feelings among the effects of cancer treatment such as hair loss, loss of part of the body, nausea, and loss of weight or weight gain (Aygin & Yaman, 2017). Fatigue is a common problem in women with breast cancer. Fatigue causes disruptions in the activities of daily life and also negatively affects performance conditions such as sexual activity. In addition to other existing side effects, it may cause unwillingness to begin sexual activity (Fobair et al, 2006). When dealing with cancer, couples often experience communication disorders related to sexual intercourse changes and the resulting sexual problems (Millbury et al, 2013). Nurses play a key role in the care of cancer patients. Spending more time with the patient and maintaining care interventions increase communication with the patients. This is the process of assessing the sexual health status of patients and providing support and advice when necessary. There are barriers for nurses to discuss sexual problems with patients. Some of these obstacles in one study; insufficient time (61.1%), focus on the treatment of cancer (48.5%), avoiding the patient (41.7%), lack of information related to sexual counselling (39.8%) in nursing history forms. As a result, the counselling rate of nurses was found to be (26.2%) (Pınar, 2010). In another study, the biggest obstacle, nurses do not feel comfortable talking about sexual care. In addition, nurses believe that patients will not consider sexual issues in this process (Bal, 2014). Evaluation of patients in terms of sexuality and providing sexual counselling services in oncology clinics are important care criteria, but not a routine procedure (Terzioglu &Alan, 2015). The aim of this study was to determine the level of sexual satisfaction of women with breast cancer and their partners and to investigate the relationship between fatigue and sexual satisfaction of women.

Methods

The data were collected only for women with breast cancer using Descriptive Data Collection Form (30 items), Golombock Rust Inventory of Sexual Satisfaction-GRISS (Female), and Piper Fatigue Scale (PFS). Women's partners were asked Descriptive Data Collection Form (16 items) and Golombock Rust Inventory of Sexual Satisfaction-GRISS (Male). Women with breast cancer are in the age range of 18-65 years, with at least literacy level, communicable, and their partners were included in the study to refer to the chemotherapy unit affiliated to the General Surgery Clinic of the research hospital in a metropolis. The data were collected between November 2014 and July 2015.

Descriptive Data Collection: Couples were asked questions about education, age, profession, year of marriage, studying status, income levels, and sexuality. Additional questions about cancer are included in the question form addressed to women participants. There were 30 questions addressed to women and 16 questions were addressed to their spouses.

Golombock Rust Inventory of Sexual Satisfaction (GRISS): The sexual satisfaction scale of Golombock Rust was developed by Rust and Golombock (1986) and was validated by reliable analyses (Reis, 2003; Rust & Golombock, 1986; Shoji et al, 2014). The validity and reliability of the scale in the context of adaptation studies were adapted by Tugrul et. (1993) into Turkish. The scale is a measurement tool for assessing the quality of sexual intercourse and sexual function. The

scale has two separate forms for men and women (Rust & Golombock, 1986; Alacacioglu et al, 2014). There are 28 articles and 7 subscales on each scale specific to genders. Lower aspect of female form: frequency, communication, satisfaction, avoidance, touch, vaginismus and anorgasmia. Lower aspect of male form: frequency, communication, satisfaction, avoidance, touch, impotence and premature ejaculation. According to the severity of feelings, thoughts and behaviours expressed on the scale of sexual satisfaction Golombock Rust "never", "rarely", "sometimes", "mostly", "always" options are required to be marked. For each question in the scales, a 5-point Likert scoring method, which is scored as 0-4, is used. High scores in scoring of items indicate deterioration of sexual function and quality of sexual intercourse (Shoji, 2014).

Piper Fatigue Scale (PFS); PFS was developed by Piper and his colleagues (1987) and the validity and reliability study in Turkish was carried out by Can (2001) (Can, 2006). The scale consists of 22 items in total. All items are coded on a numerical scale of 0-10; they consist of 4 sub-aspects, including behavioural/violence subscale (6 items), emotional sub-aspect(5 items), sensory sub-aspect(5 items) and cognitive/emotional subscale(6 items). In the calculation of sub-scale points, the score of all the items in the sub-scale is collected and the total score is divided into the number of items. From here, the average score of 0-10 is obtained.

Total fatigue score is calculated by dividing the total number of items by the score of all sub-aspects (Can, 2006; Reeve et al, 2012; Uzelli-yılmaz &Sarı, 2017). According to the score average, “0”points indicate that there is no fatigue, “1-3” points indicate mild fatigue, “4-6” points indicate moderate fatigue, “7-10” points indicate severe fatigue (Guner, 2008). In their study, Piper and his colleagues calculated Cronbach Alpha coefficient of PFS as 0.89. The reliability coefficients of the subscale points range from 0.92 to 0.96 (; Uzelli-yılmaz &Sarı, 2017).

Ethical Consideration: Ethical and institutional permissions were obtained from the relevant units for conducting the study. In addition, the participants were informed at the beginning of the study and the study was conducted after verbal and written consent was obtained. Number of ethical permission: (2014/104).

Results

A total of 66 pairs of women with breast cancer who were treated with CT and their partners participated in the study. The mean age of women with breast cancer was 47.21±8.55 and their partners were 50.74±8.47. 63.6% of the women and 57.6% of the partners are in primary education level. 72.7% of the women are housewives and 36.4% of the partners are the retirees. 10.6% of the women and 60.6% of the partners are working. Couples expressed their income levels moderately at 71.2% and 60.6%, respectively. The mean age of marriage for women was 22.14±3.93, and the partners were 25.45±3.70. The marriage duration of couples was calculated as 80.3% for those who were 16 years old and over and 93.9% for those who had children (Table 1).

A 50% of the women were menopausal and the mean age of menopause was calculated as 47.06 ± 3.07. 50% of the women were diagnosed with the first disease 4-6 months ago. It was determined that 57.6% of women with breast cancer benefited from other therapies besides chemotherapy (CT). Breast surgery was performed in 86.8% of these women. Women with breast cancer 69.8% received CT therapy 5 times or less (Table 2).

The relationship between frequency, communication, avoidance, and touch subscales was found to be statistically significant when the sexual satisfaction of women with breast cancer and their partners were examined. It was determined that avoidance and satisfaction are more negatively affected in women. In addition, it was determined that women's vaginismus problem, men's dissatisfaction with the causes of impotence and premature ejaculation decreased (Table 3).

All women with breast cancer felt themselves tired, and 74.2% of the patients stated that they experienced moderate fatigue. 53% of the women indicated the drugs used as the cause of fatigue. The average fatigue duration of women with breast cancer during the day was 3.81±2.32 hours (Table 4).

When the relationship between fatigue and sexual satisfaction levels of breast cancer women examined; the relationship between the frequency subscale of GRISS scale and the "behaviour, affect and the sensory" subscales of the PFS scale and the total score of the PFS scale were observed. The relationship between GRISS "communication" subscale and PFS "cognition" was observed. GRISS "satisfaction" has been shown to correlate the PFS "sensory, cognition" and total score with the subscale. Avoid of the GRISS scale a correlation was observed between subscale scores and the "behaviour, sensory" and total points of the PFS scale.

"Vaginismus" subscale was correlated with all subscales of PFS except "cognition" and total score. "Anorgasmia" subscale was also associated with "sensory, cognition" and total PFS scores. GRISS scale relation between total score and "behaviour, sensory and cognition" subscales and total PFS score were observed (Table 5).

Table 1:Descriptive Characteristics of Women with Breast Cancer and Their Partners

Descriptive Characteristics	Women (n:66)	Spouses (n:66)
Age (years): *M* (*SD*)	47.21 ±8.55	50.74 ±8.47
Education level (%)		
Literate	3.0	0
Elementary school	63.6	57.6
High school	27.3	31.8
University	6.1	10.6
Occupation (%)		
Retired	12.1	36.4
Officer	10.6	10.6
Housewife	72.7	0
Worker	4.5	27.3
Other	0	25.8
Employment status (%)		
Working	10.6	60.6
Not working	89.4	39.4

Income (%)		
Low income	22.7	36.4
Medium income	71.2	60.6
High income	6.1	3.0
Age of marriage years: *M* (*SD*)	22.14±3.93	25.45±3.70
Years of marriage (%)		
1–5 years	3.0	
6–10 years	7.6	
11–15 years	9.1	
16 years and above	80.3	

Table 2 :Menopausal Status, Treatment Details, and Stage of Disease in Women with Breast Cancer

Variables	**% of women (*n* = 66)**
Have you entered the menopause?	
Yes	50
No	50
Age at menopause (years): *M* /(*SD*)	47.06 ± 3.07
Time since disease diagnosis	
1–3 months	7.6
4–6 months	50.0
7–9 months	34.8
10–12 months	4.5
Over 1 year	3.0
Have you used multiple treatment methods?	
Yes	57.6
No	42.4
Was breast surgery performed?	
Yes	86.8
No	13.2

Number of chemotherapy treatment cycles	
5 or below	69.8
6 or above	30.2

Table 3: Comparison of Subscale and Total Golombok Rust Inventory of Sexual Satisfaction Scores (GRISS) in Women With Breast Cancer and Their Partners

Women (*n* = 66)		**Partners (n = 66)**		***r***	***p***
Subscale	**TS**	**Subscale**	**TS**		
Frequency	6.03	Frequency	4.98	.246*	.000
Communication	4.92	Communication	4.15	.270*	.008
Satisfaction	3.40	Satisfaction	3.43	.138	.895
Avoidance	5.71	Avoidance	3.24	.206*	.000
Touch	5.86	Touch	3.25	.008*	.000
Vaginismus	6.46	Impotence	4.74		
Anorgasmia	3.81	Premature ejaculation	4.54		
Total	5.86	**Total**	5.89		

*Note. *Correlation is significant at the .05 level. TS = transformed scorer, r:Pearson correlation coefficient*

Table 4: Fatigue Level and Duration in Women with Breast Cancer

Variables	**% of women (*n* = 66)**
Do you feel tired?	
Yes	100
No	0
Intensity of fatigue	
Low	6.1
Moderate	74.2
Severe	19.7

The factors causing fatigue				
Drugs used			53.0	
Disease			13.6	
Stress			1.5	
Mobility			4.5	
Other			27.3	
	Mean	**SD**	**Min.**	**Max.**
Fatigue duration (hours daily)	3.81	2.32	1.00	18.00

Table 5: Correlations Between Golombok Rust Inventory of Sexual Satisfaction (GRISS) scores and Piper Fatigue Scale (PFS) Scores in Women with Breast Cancer (n = 66)

GRISS subscales	**PFS subscales**									
	Behaviour/ violence		Affect		Sensory		Cognition		**Total Score**	
	r	***p***	***r***	***p***	***r***	***p***	***r***	***p***	***r***	***p***
Frequency	.462**	.000	.338**	.006	.545**	.000	.249*	.044	.486**	.000
Communication	–.141	.258	.022	.861	.129	.303	.289*	.018	.112	.369
Satisfaction	.198	.111	.020	.873	.319**	.009	.369**	.002	.294**	.016
Avoidance	.450**	.000	.277*	.024	.500**	.000	.114	.363	.439**	.000
Touch	.154	.216	.028	.823	.125	.316	–.091	.466	.115	.359
Vaginismus	.247*	.045	.280*	.023	.276*	.025	.108	.389	.306*	.013
Anorgasmia	.121	.331	.066	.597	.408**	.001	.386**	.001	.305*	.013
Total Score	.296*	.016	.222	.073	.406**	.001	.265*	.031	.393**	.001

*Note. *Correlation is significant at the .05 level; **Correlation is significant at the .01 level.*
r:Pearson korelasyon katsayısı

Discussion

In this study, it was aimed to investigate the relationship between sexual satisfaction of women with breast cancer and their partners (n: 66 couples) and to determine the relationship between sexual satisfaction and fatigue in women.

The mean age of women with breast cancer included in our study was 47.21±8.55, and their average age was 50.74±8.47. In this study, it was found that there was a relationship between the educational status of women and the "communication" subscale score of the GRISS.

It is thought that women with low education level have communication problems and this affects sexual problems between partners negatively. In a study, it was shown that there is a significant relationship between age and sexual satisfaction (Ozerdogan et al, 2009). In a study; sexual dysfunction has an important place in women with breast cancer continuing menstruation. In another study, there was a significant relationship between the level of education of patients and their partners and sexual dysfunction; it was found that patients with low education level experienced anxiety disorder and unsatisfaction (Aygin et al, 2008; Reeve et al, 2012).

The rate of working in women was 10.6 % and in men was 60.6 %. The reason for difference in employment of women and men labor force participation (Serel & Ozdemir, 2017). In a study carried out, it was found that there was a meaningful relationship between the studying status of the partners and the income level of the family and the sexual satisfaction, and more sexual dysfunction was observed in the couples with low income level (Ozerdogan et al, 2009).

The age of married women with breast cancer included in this study was calculated as 22.14±3.93 and their partners as 25.45±3.70. It was determined that 80.3% of the couples had a marriage period of 16 years or more. In couples with long marriage years, a pause in relationships can be expected to partially decrease sexual activity. Changes in family roles and the reasons that spouses can not spend sufficient and quality time together may also adversely affect their sexual life. In the study, it was determined that the type of marriage, the number of marriage and the number of children were significantly related to the sexual dissatisfaction experienced by the patients and that the widowed women had more frequent sexual dysfunctions compared to the women living with the core family (Ozerdogan et al, 2009).

It was determined that 50% of the women who participated in our study were menopausal and that they entered menopause at an average of 47.06±3.07 years. One study showed that women who received CT had much more menopause-related symptoms, about 40% of those under 40 years of age, and 100% of menopausal women who entered the age of 50 years (Miura et al, 2016). Studies have shown that menopausal women experience more sexual satisfaction problems (Shoji et al, 2014). In the literature, it is stated that the pain and fatigue experienced in post-operative period cause sexual dysfunction in women with breast cancer following surgical treatment (Aygin et al, 2008; Can, 2006; Denizgil & Sonmez, 2015).

Loss of breast, symbol of woman, loss of body image in women, loss of femininity and sexual attraction, may cause emotions making the women feeling themselves insufficient (Ertem et al, 2017; Guner, 2008). Women with breast cancer who did not have any sexual function problems prior to treatment were found to have orgasm and satiation problems after treatment (Avci-Aydin & Kumcagiz, 2011).

It was determined that 69.8% of the women received 5 cures or less. High-dose chemotherapy was found to have a severe adverse effect on quality of life and sexual satisfaction in the first 6 months following treatment in women receiving CT and before and after menopause (Malinovszky et al, 2006). In a study of women with breast cancer who were sexually active in comparison to their sexual function before treatment and one

year after CT treatment, 31.6% of women experienced at least one sexual dysfunction after one year of treatment (Lee et al, 2015). In a similar study, side effects of the CT such as fatigue, nausea-vomiting, diarrhea, constipation, alopecia, and weight changes lead to feelings of asexuality by the women and thus cause decrease in sexual desire (Aygin & Yaman, 2017).

Some of the women with breast cancer who were interviewed in this study data collection process stated that they thought sexual intercourse is forbidden during the treatment process. This situation is thought to negatively affect the frequency of sexual intercourse among patients. Although this situation shows that sexual problems are not easily spoken to health workers it can be concluded that health workers are avoid talking about sexuality in educational content. No significant difference was found between the GRISS scores of women with breast cancer undergoing breast conserving surgery and mastectomy (Denizgil & Sonmez, 2015).

In the studies conducted with women with breast cancer, it was found that women experienced orgasm and satisfaction problems after treatment (Aygin et al, 2008). In a study conducted, it was found that the frequency of sexual intercourse among women with breast cancer receiving treatment decreased (Kedde et al, 2013). In another study regarding women with breast cancer, it was found that about half of the sexually active women experienced sexual dysfunction; decreased sexual desire, difficulty in stimulation and difficulty in reaching orgasm (Fobair et al, 2006). Women with breast cancer were also found to have sexual satisfaction problems in communication, in satisfaction, in touch and in anorgasmia subscales (Alacacioglu et al, 2014). These disorders are as follows; 27.5% were reluctant to sexual stimulation, 15.2% were insufficiently stimulated, 8.6% were having vaginal dryness, 13.8% faced anorgasmia, 9.7% were experiencing satisfaction problem and 11.2% were having sexual pain (Lee et al, 2015).

When the relationship between subscales in sexual satisfaction measures of women with breast cancer and their partners is examined, frequency, communication, avoidance and touch subscales were found to be significant. In one study, it was found that sexual problems between women with metastatic breast cancer and their partners affected the quality of life significantly and women reported much more sexual problems (Emilee et al, 2010).

All of the women who were included in this study stated that they were experiencing fatigue. In some studies, it has been shown that fatigue during and after treatment varies between 4-91% (Guner, 2008). In a study; physical complaints such as fatigue, energy and power loss, pain, surgical treatment, and body changes have been found to have an effect on sexual health (Aygin &Yaman, 2017). It has been shown that fatigue causes severe distress in CT patients, especially in the first week following treatment (89% -100%) (Can, 2006). Women who experience fatigue due to chemotherapy are said to have a decreased sense of sexual attractiveness (Reis, 2003).

In women with breast cancer, the GRISS scale with “frequency” subscale score, the PFS scale was correlated with all subscales and the total score. It has been observed that the frequency of sexual activity in women who are tired is decreasing. In another study, cognitive fatigue has been shown to negatively affect the health status and quality of life of women with breast cancer (Babaoglu-Akdeniz, 2012). GRISS “satisfaction” subscale and PFS, “sensory and cognitive” subscales and total score were found statistically significant.

The relationship between GRISS, “avoidance” subscale and PFS, “behaviour, affect and sensory” subscales and total score was significant. Vaginismus subscale was found to be correlated with all subscales except total cognition subscale of fatigue and total score. In a study conducted, women with breast cancer were assessed for fatigue, sleep and depressive symptoms prior to CT, after four cycles and one year later, and were found to experience

more likely these problems than healthy women (Ancoli-Israel et al, 2014). Relations between GRISS, "anorgasmia" subscale and PFS, "sensory and cognition" subscales are significant. Anorgasmia and PFS total score were also correlated.

The relationship between PFS, "behaviour, sensory and cognition" subscales and total score were found to be significant with GRISS total score. Women with breast cancer need the support of their partners to get over the difficulties caused by the disease. Satisfying sexual life has a positive and significant effect on the strengthening of marriage ties, the satisfaction of marriage partners and the closeness of the partners (Akyolcu, 2008; Tiryaki et al, 2010).

It should also be noted that it is an important and necessary for partners to be able to manage their own anxiety in order to be able to experience stress at the same level as patients and to be effective in supporting their partners.

Conclusions

Many women receiving cancer treatment experience different levels of sexual problems. The reasons that affect this situation physical, psychological, social or environmental. In any case, it is important to pay due attention to this issue. Women, especially in the first year of treatment, sexual problems may not be overlooked.

The fact that women have concerns about expressing themselves in sexual situations is sure to lead to breakdown of relationships among spouses. While receiving information from patients, questions about sexual life should be included and health professionals should be provided with adequate and appropriate sexual counselling.

It should be noted that patients avoid talking about these issues; health professionals, especially nurses should more sensitive to patients and their cultural teachings should not be allowed to prevent access to this information.

The study was conducted in a single institution. The fact that the partners of women with breast cancer were not willing to participate in the study did not make it possible to reach the desired number of data collection.

More researches are needed to examine the changes in the sexual lives of women with breast cancer and their partners.

The studies to be done will lead to expand the knowledge on this issue and contribute to the researchers who want to study on this subject.

Conflict of interest: All authors declare they have no conflict of interest. Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

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